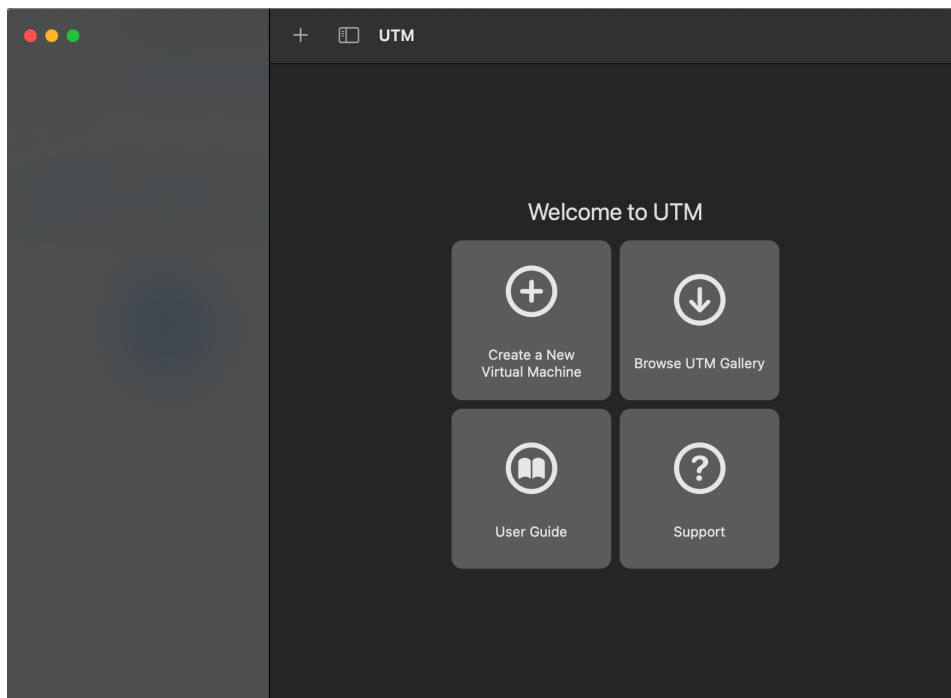
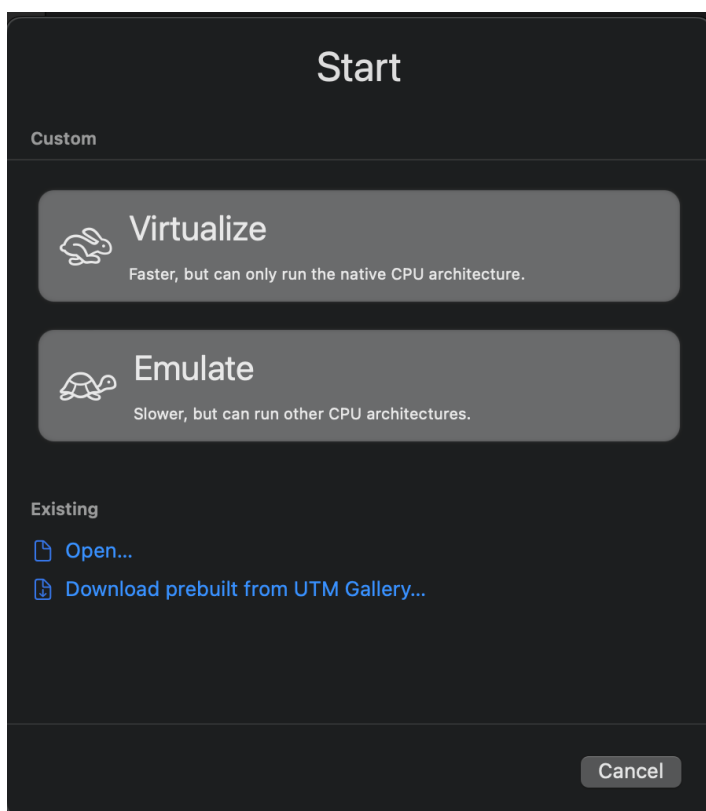


## Instructions for Installing Ubuntu VM on Apple Silicon

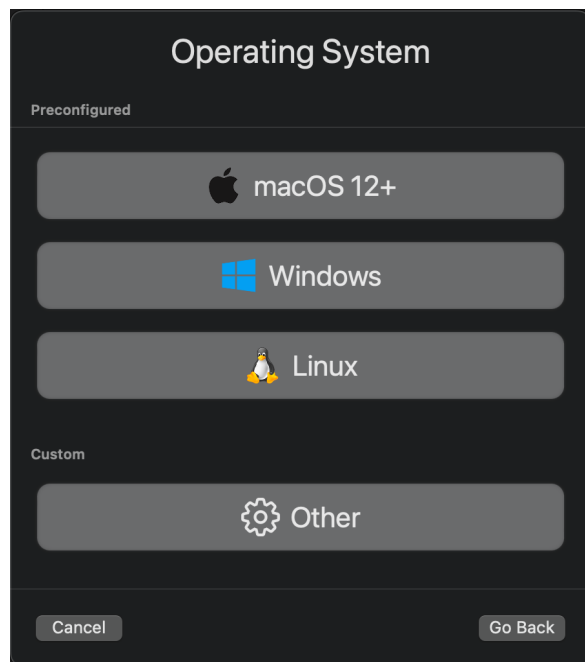
1. Install and open UTM then click on 'Create a New Virtual Machine'



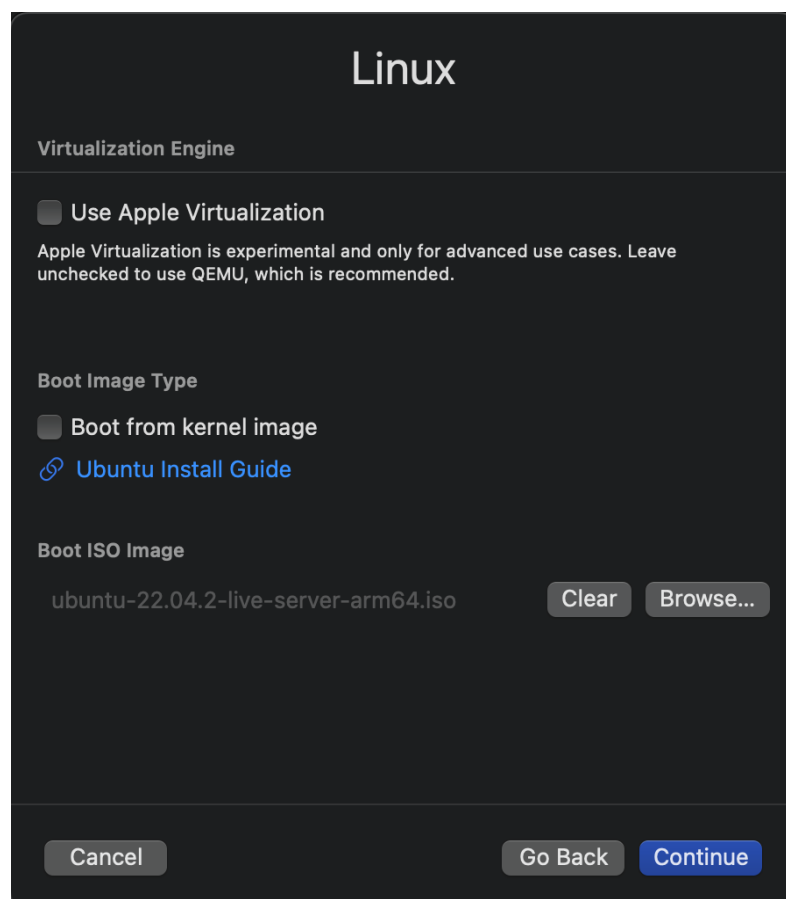
2. Click on 'Virtualize'



3. Select 'Linux' as the operating system



4. Click on Browse and select the iso image for Ubuntu you downloaded then continue



5. Press continue - defaults should be fine

**Hardware**

Memory

4096 MB

CPU

CPU Cores Default

Hardware OpenGL Acceleration

☐ Enable hardware OpenGL acceleration

There are known issues in some newer Linux drivers including black screen, broken compositing, and apps failing to render.

Cancel Go Back Continue

6. Allocate a reasonable amount of disk space for the VM (I have gone with 25 GB)

**Storage**

Size

Specify the size of the drive where data will be stored into.

25 GB

Cancel Go Back Continue

7. Press continue (no need for any shared folders)

Shared Directory

Shared Directory Path

Path  Clear Browse...

☒ Share is read only

Optionally select a directory to make accessible inside the VM. Note that support for shared directories varies by the guest operating system and may require additional guest drivers to be installed. See UTM support pages for more details.

Cancel Go Back Continue

8. Verify the summary details are correct and optionally rename the system to Ubuntu instead of Linux by changing the name field:

Summary

Name

☐ Open VM Settings

Engine

☒ Use Virtualization

Architecture

System

RAM

CPU

Storage

☐ Hardware OpenGL Acceleration

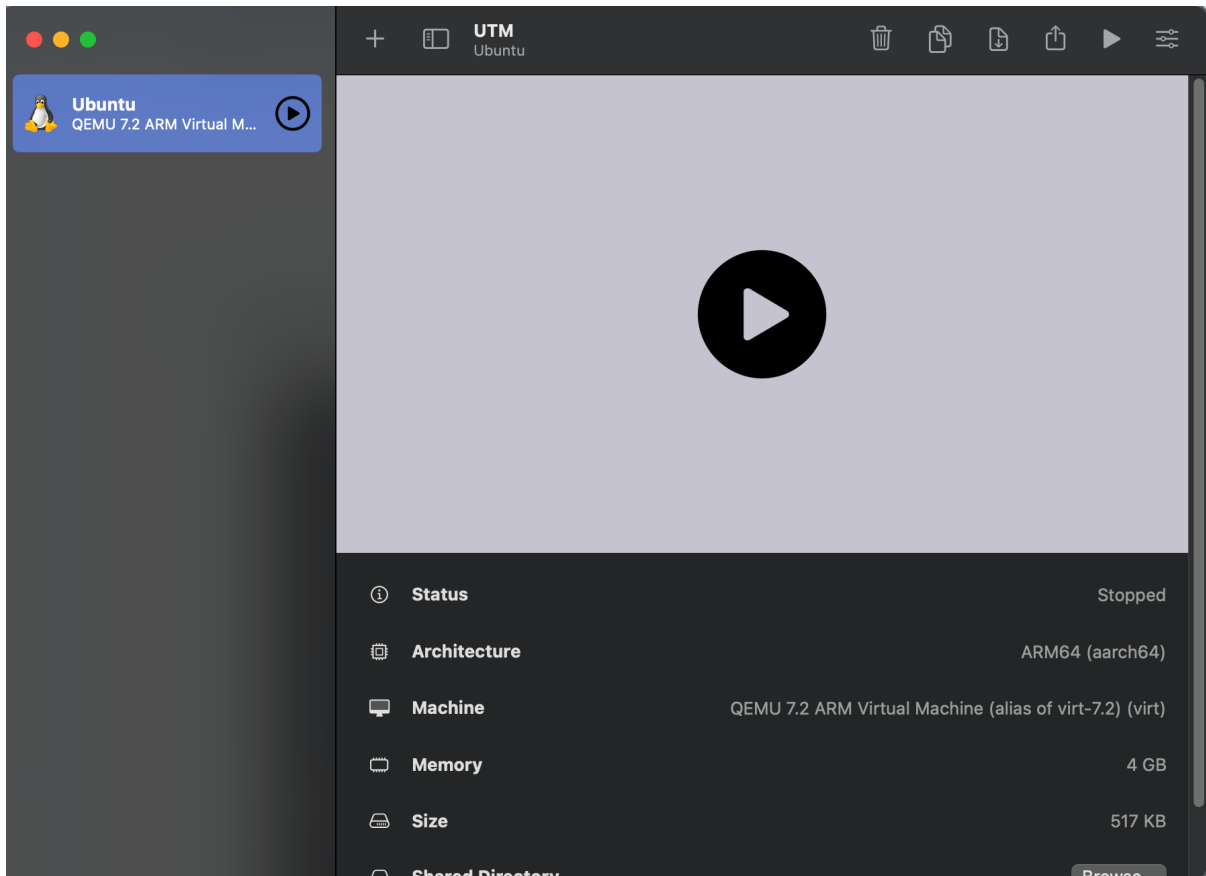
Operating System

☐ Skip Boot Image

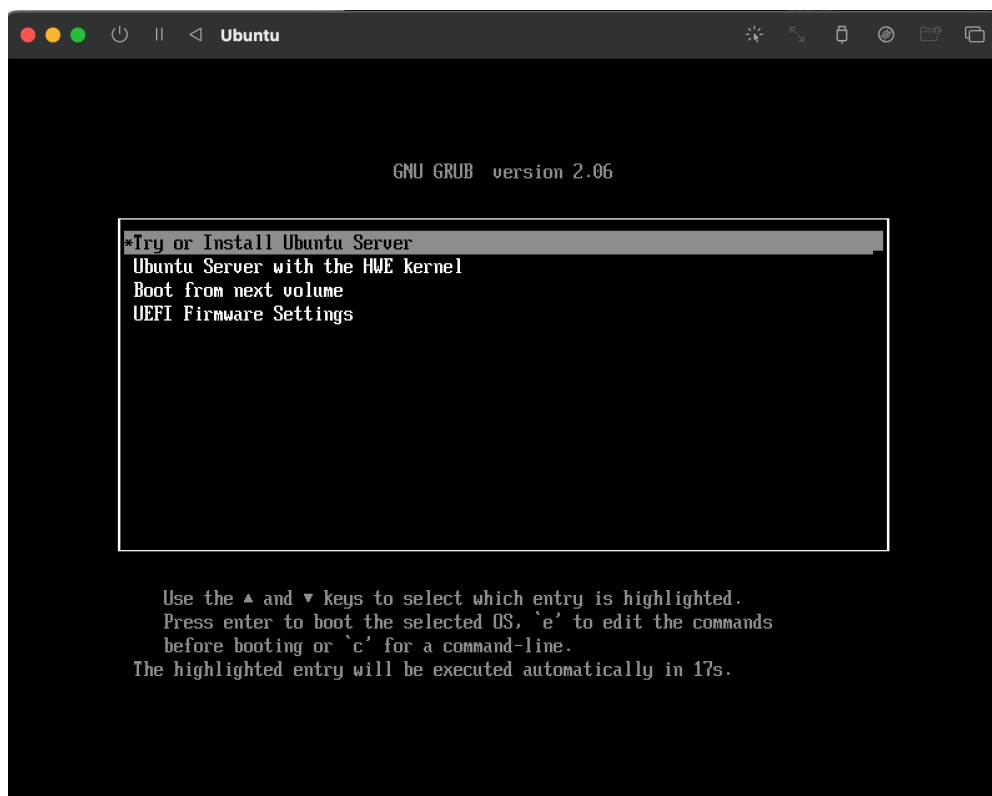
Boot Image

Cancel Go Back Save

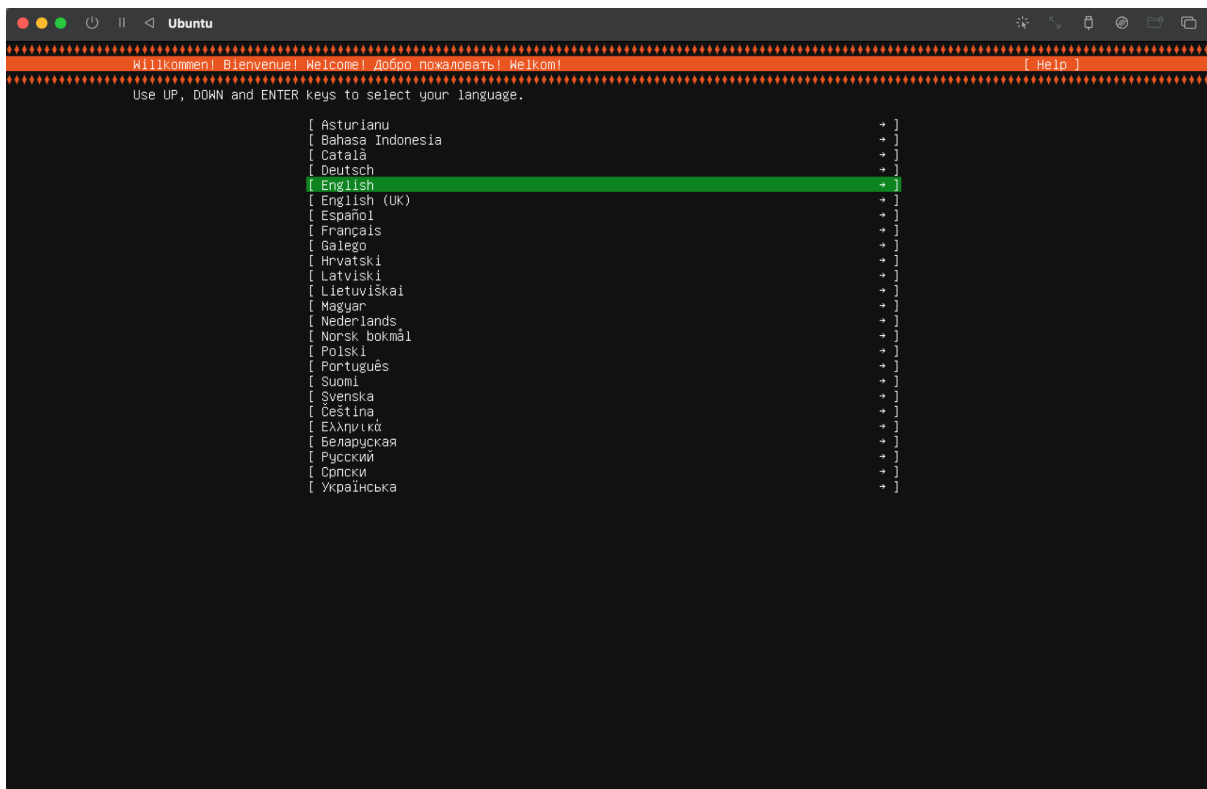
9. Start the VM by pressing the play button:



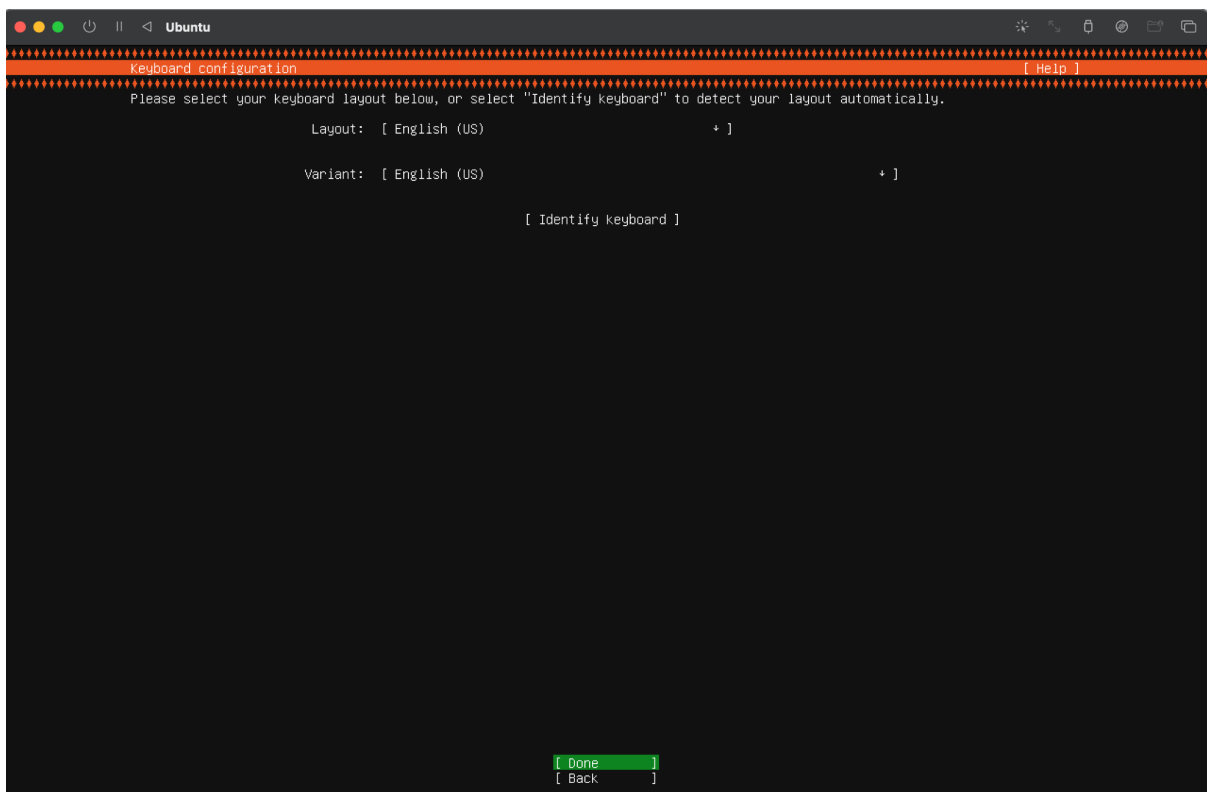
10. Press enter on 'Try or Install Ubuntu Server'



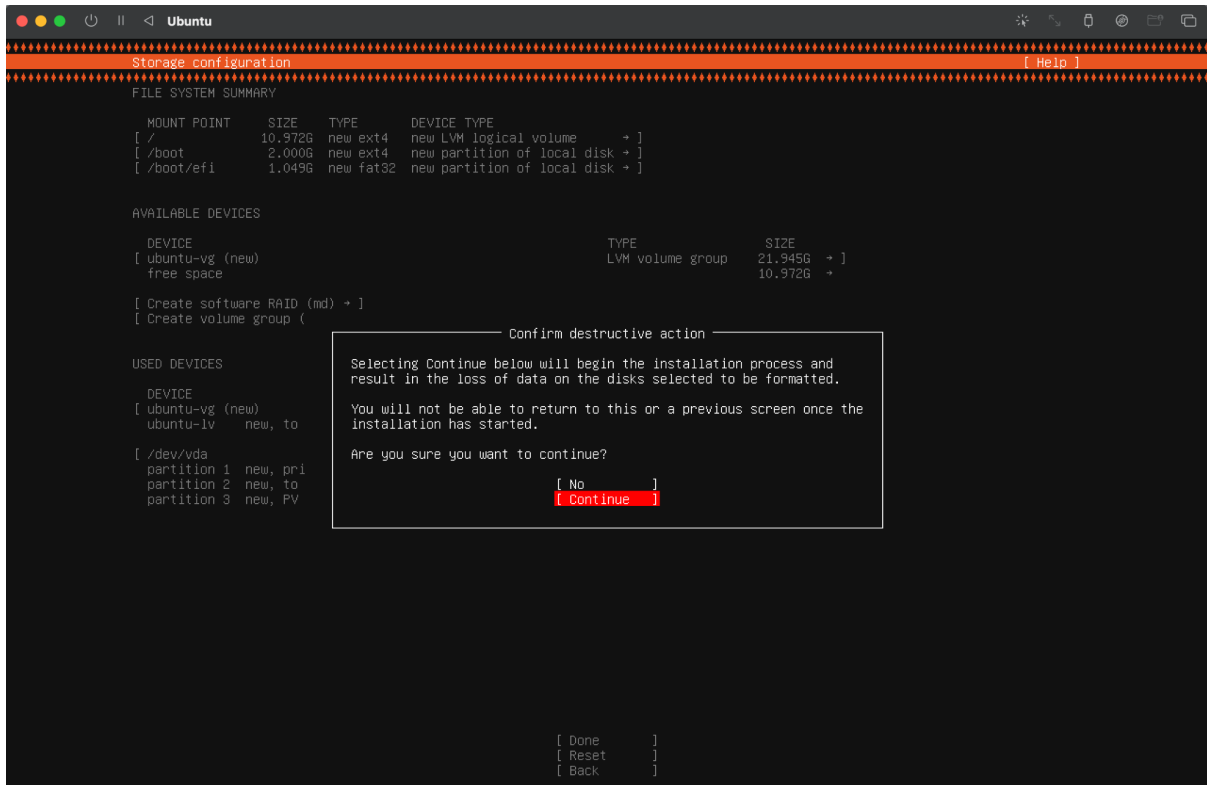
11. Select English as the language by pressing enter on that option:



12. Press enter on done to continue

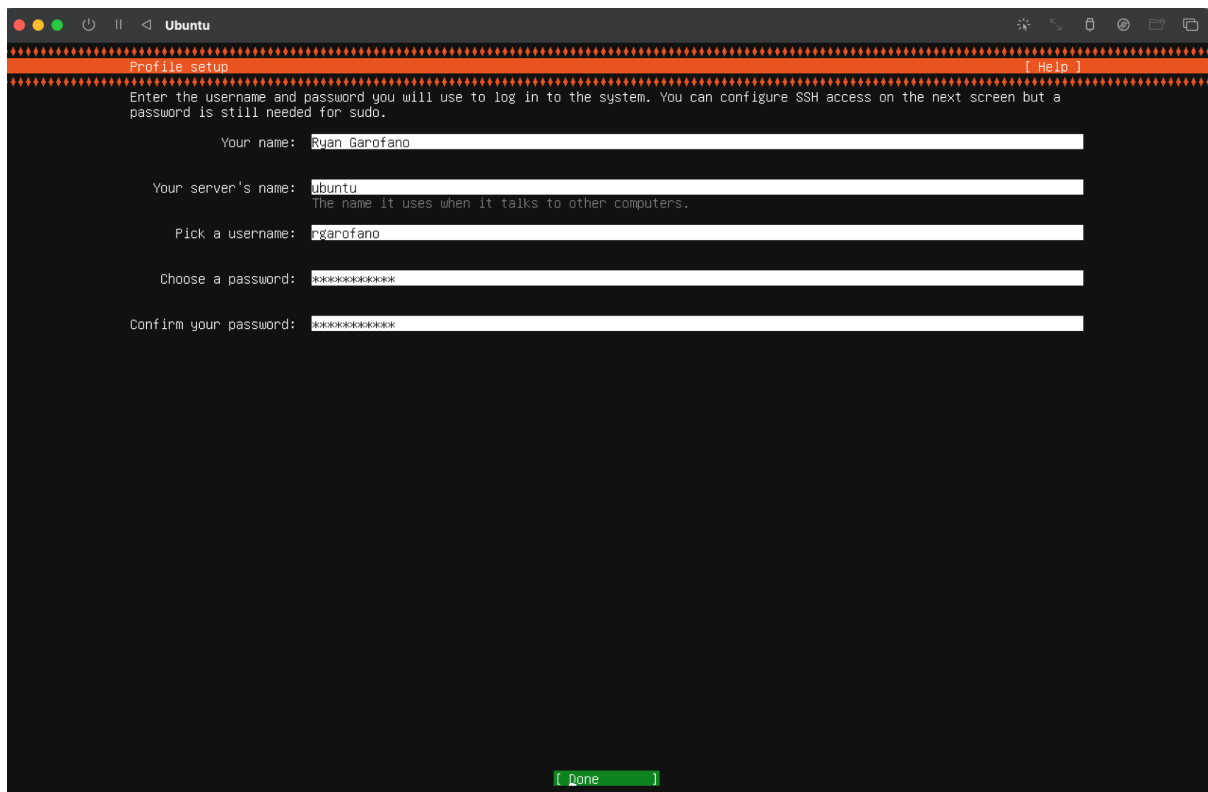


13. Continue to press done on all screens until you are prompted with the following:

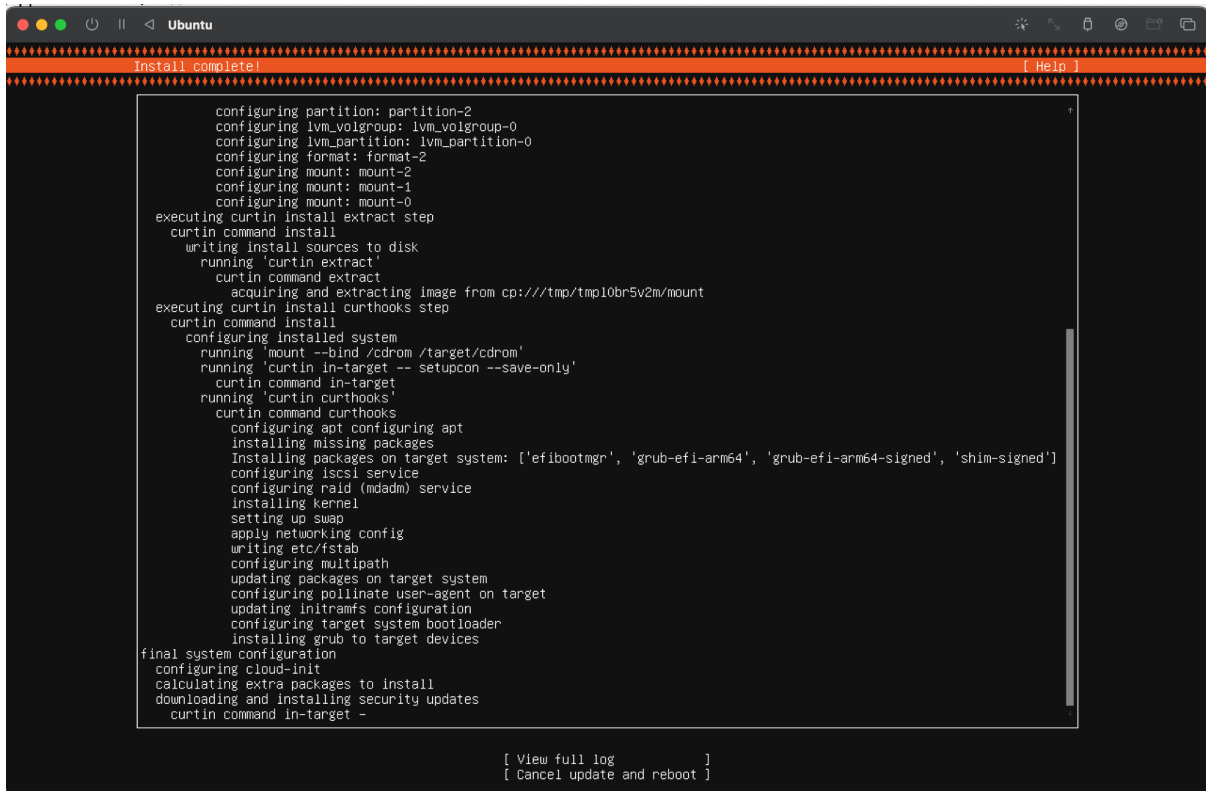


Select continue (don't worry this is just formatting free space on your computer, none of your data will be lost)

14. Fill out the details for your user account and the server name, you can use the image below as a possible template. Pick a password you can remember!



15. Continue to click done on each step (we don't need to install any server related packages right now). Eventually you will get to this screen:

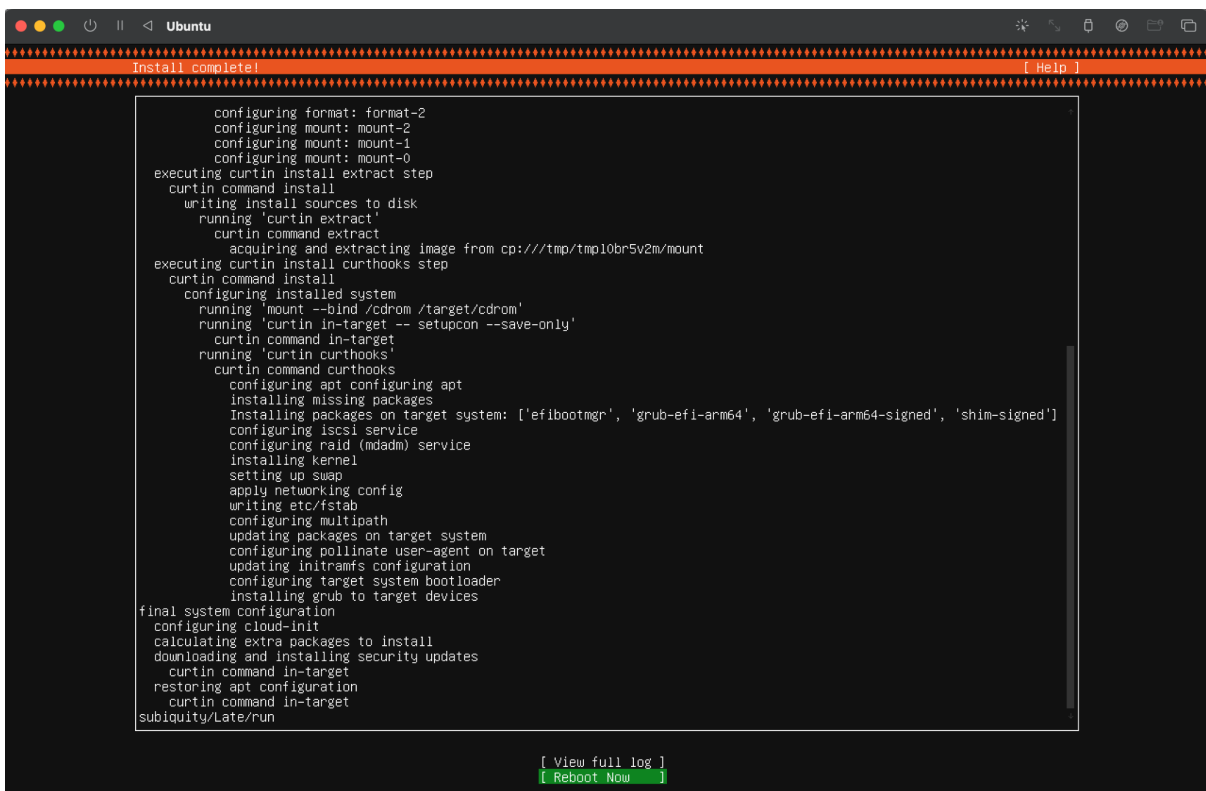


The screenshot shows the Ubuntu installer terminal window. The title bar says "Ubuntu". The top status bar says "Install complete!" and "[ Help ]". The terminal output shows the following steps:

```
configuring partition: partition-2
configuring lvm.volgroup: lvm_volgroup-0
configuring lvm.partition: lvm_partition-0
configuring format: format-2
configuring mount: mount-2
configuring mount: mount-1
configuring mount: mount-0
executing curtin install extract step
  curtin command install
    writing install sources to disk
    running 'curtin extract'
    curtin command extract
      acquiring and extracting image from cp:///tmp/tmp10br5v2m/mount
executing curtin install curthooks step
  curtin command install
    configuring installed system
    running 'mount --bind /cdrom /target/cdrom'
    running 'curtin in-target -- setupcon --save-only'
    curtin command in-target
    running 'curtin curthooks'
    curtin command curthooks
      configuring apt configuring apt
      installing missing packages
      Installing packages on target system: ['efibootmgr', 'grub-efi-arm64', 'grub-efi-arm64-signed', 'shim-signed']
      configuring iscsi service
      configuring raid (mdadm) service
      installing kernel
      setting up swap
      apply networking config
      writing etc/fstab
      configuring multipath
      updating packages on target system
      configuring pollinate user-agent on target
      updating initramfs configuration
      configuring target system bootloader
      installing grub to target devices
final system configuration
  configuring cloud-init
  calculating extra packages to install
  downloading and installing security updates
  curtin command in-target -
```

At the bottom, there are two options: "[ View full log ]" and "[ Cancel update and reboot ]".

16. When it's done updating press enter on reboot now



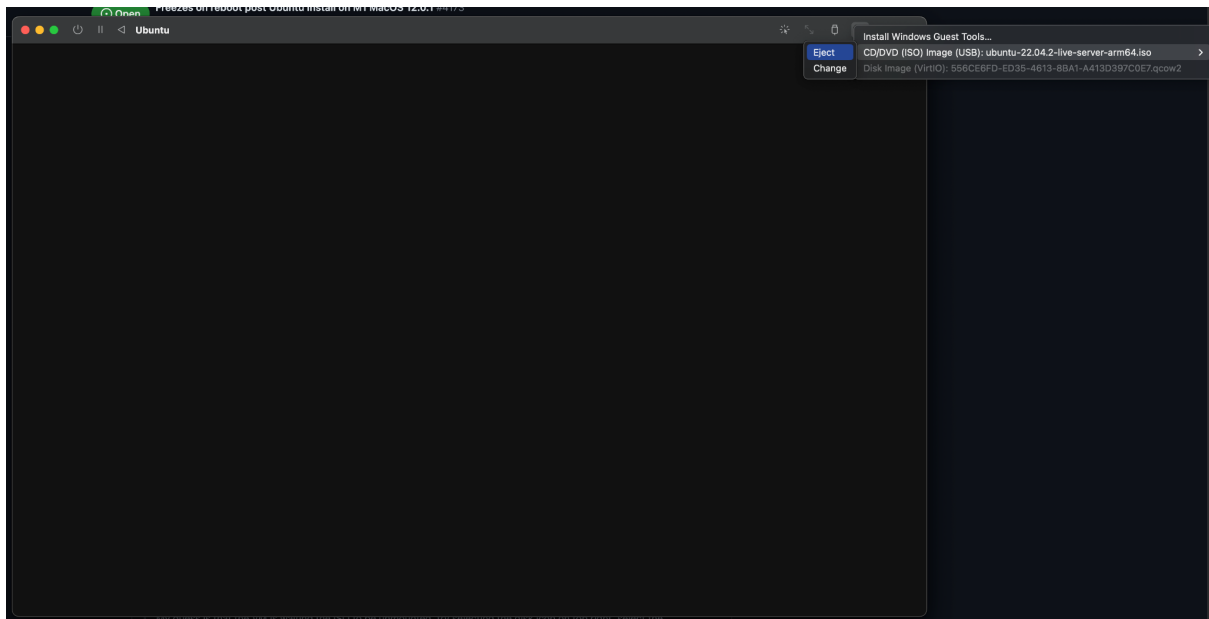
The screenshot shows the Ubuntu installer terminal window. The title bar says "Ubuntu". The top status bar says "Install complete!" and "[ Help ]". The terminal output shows the following steps:

```
configuring format: format-2
configuring mount: mount-2
configuring mount: mount-1
configuring mount: mount-0
executing curtin install extract step
  curtin command install
    writing install sources to disk
    running 'curtin extract'
    curtin command extract
      acquiring and extracting image from cp:///tmp/tmp10br5v2m/mount
executing curtin install curthooks step
  curtin command install
    configuring installed system
    running 'mount --bind /cdrom /target/cdrom'
    running 'curtin in-target -- setupcon --save-only'
    curtin command in-target
    running 'curtin curthooks'
    curtin command curthooks
      configuring apt configuring apt
      installing missing packages
      Installing packages on target system: ['efibootmgr', 'grub-efi-arm64', 'grub-efi-arm64-signed', 'shim-signed']
      configuring iscsi service
      configuring raid (mdadm) service
      installing kernel
      setting up swap
      apply networking config
      writing etc/fstab
      configuring multipath
      updating packages on target system
      configuring pollinate user-agent on target
      updating initramfs configuration
      configuring target system bootloader
      installing grub to target devices
final system configuration
  configuring cloud-init
  calculating extra packages to install
  downloading and installing security updates
  curtin command in-target
  restoring apt configuration
  curtin command in-target
subiquity/Late/run
```

At the bottom, there are two options: "[ View full log ]" and "[ Reboot Now ]". The "[ Reboot Now ]" option is highlighted in green.

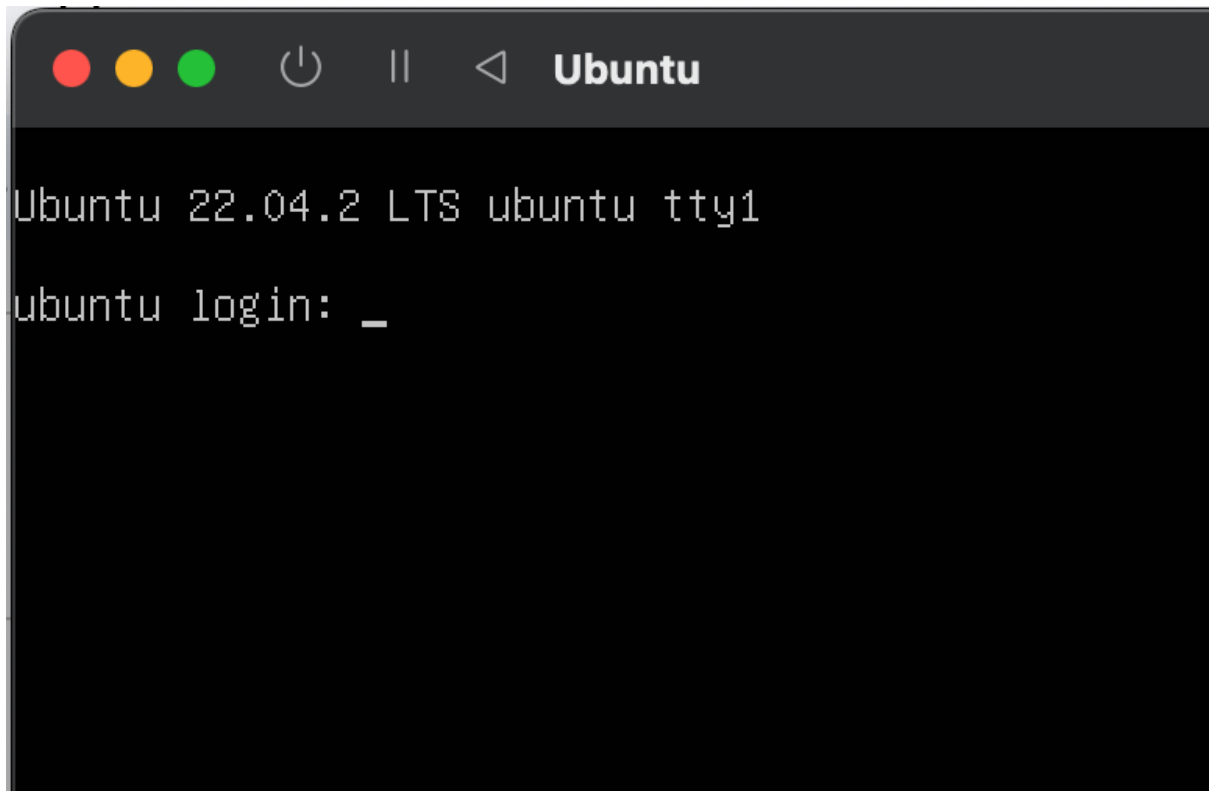


If your VM is hanging at a black screen with a blinking cursor like below then eject the the iso as shown:



Then press the reverse play button to restart the VM

17. Log in to your account by typing your username it will then prompt you for your password.



18. At this point you should be logged in to the OS and it will look like this:

```
Ubuntu 22.04.2 LTS ubuntu tty1

ubuntu login: rgarofano
Password:
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.15.0-76-generic aarch64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Tue Jul 18 04:35:05 AM UTC 2023

System load:            0.12890625
Usage of /:              44.7% of 10.70GB
Memory usage:           5%
Swap usage:             0%
Processes:              125
Users logged in:        0
IPv4 address for enp0s1: 192.168.64.6
IPv6 address for enp0s1: fdb5:e640:bfef:ca36:285b:cff:fed1:afda

Expanded Security Maintenance for Applications is not enabled.

65 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

rgarofano@ubuntu:~$ _
```

19. Since this is just a server installation, we will need to install a GUI ourselves. Luckily it's only gonna take a few commands. Type into your terminal:

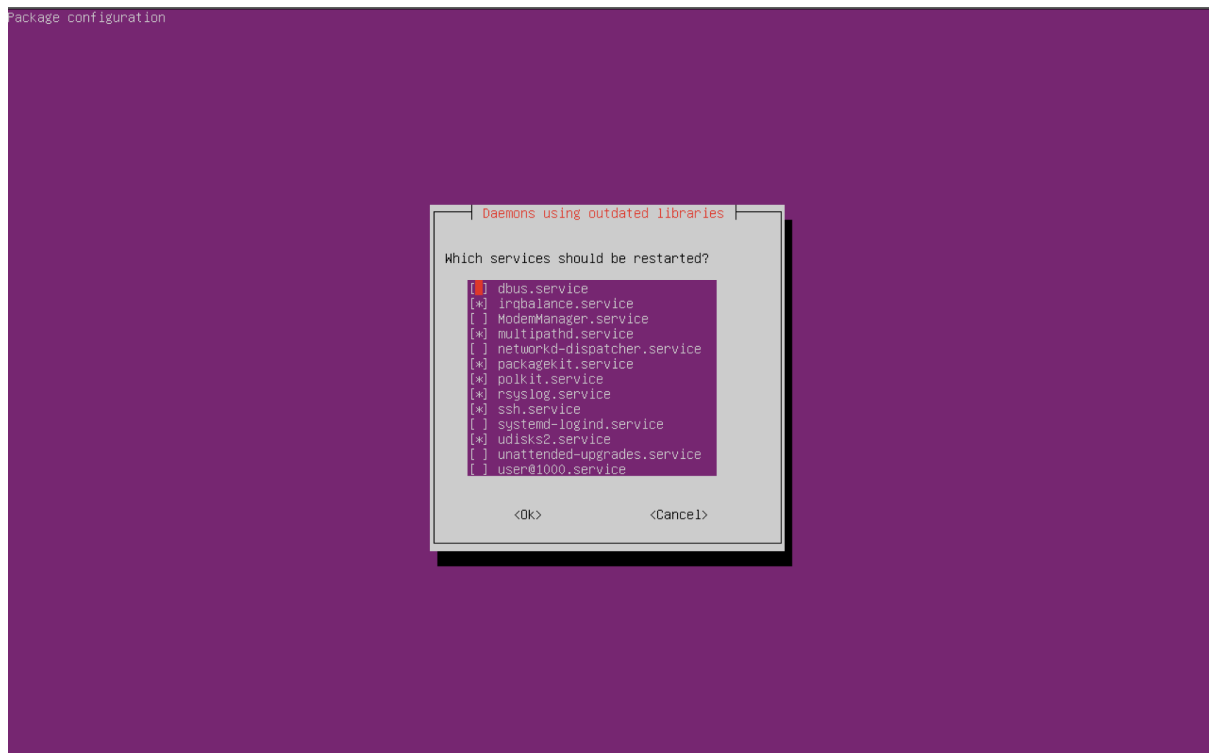
```
sudo apt-get update
```

```
sudo apt-get install gnome-shell ubuntu-gnome-desktop
```

You'll need to type in your password for the first command. For the second command type y when prompted.

Let the gnome desktop package and its dependencies install, it will take a while.

20. Once it is complete select OK at this screen



21. Reboot the system with 'sudo reboot'

```
systemctl restart irqbalance.service multipathd.service packagekit.service polkit.service rsyslog.  
Service restarts being deferred:  
systemctl restart ModemManager.service  
/etc/needrestart/restart.d/dbus.service  
systemctl restart networkd-dispatcher.service  
systemctl restart systemd-logind.service  
systemctl restart unattended-upgrades.service  
systemctl restart user@1000.service  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ngarofano@ubuntu:~$ sudo reboot
```